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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,197	08/22/2003	John D. Santi	018367-9819-00	9046

23409 7590 07/08/2004

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EXAMINER

CHANG, CHING

ART UNIT PAPER NUMBER

3748

DATE MAILED: 07/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/646,197	SANTI, JOHN D.	
	Examiner	Art Unit	
	Ching Chang	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-19, 21-28, and 31-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-19, 21-28, and 31-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01202004</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's election of Group I and the species of Figs. 3-7, and 9 filed on April 21, 2004 is acknowledged, claims 1-7, 9-19, 21-28, and 31-35 being readable thereon, and the species of Figs. 8-8a, 10-13 and 16 being directed to the non-elected species accordingly. Claims 8, 20, 29-30, and 36-63 are cancelled as requested.

Specification

1. The disclosure is objected to because of the following informalities:

- " 55 " after " arm " in line 12, Page 7, appears to be -- 60 --.

Appropriate correction is required.

Claim Objections

2. Claims 9-11, 18-19, 21-23, 31, and 33-35 are objected to because of the following informalities:

- " lever arm " in the claims 9-11, 21-23, 31, and 33-35 appears to be -- follower arm --.
- " the lever arm adjacent the second aperture " after " a portion of " in claim 18 appears to be -- a follower arm adjacent a second aperture of the follower arm --.

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- " the lever arm engagement portion " in claim 19 appears to be – the first engagement portion --.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. ***Claims 1-2, 5-6, and 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Immel et al. (US Patent No. 6,612,275).***

Immel discloses a valve-operating lever comprising: a valve arm (126b) including a first aperture (230) defining a valve arm engagement portion; a connector member (228); a first stop (a nut to 228, See Fig. 10) cooperating with the connector member to at least partially define a first engagement portion, the valve arm engagement portion engaging the first engagement portion; and a second stop (236) positioned such that the valve arm is sandwiched between the first stop and the second stop; wherein the first aperture is substantially circular; wherein the valve arm defines a valve arm

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thickness and wherein the first engagement portion defines an axial length that is at least as great as the valve arm thickness; wherein the valve arm is formed from a stamped metal; Immel further discloses the said lever comprising a follower arm (218b) including a second aperture (to allow 222b through) defining a follower arm engagement portion; wherein the follower arm includes a follower surface 220b) adapted to engage a cam surface (216); wherein the valve arm includes a valve actuating portion adapted to actuate a valve (232b) in response to movement of the follower arm.

In addition, when a product by process claim is rejected over a prior art product such as that shown in Immel, which appears to be identical, although produced by a different process, the burden is upon the applicants to come forward with evidence establishing an unobvious difference between the two. See *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983).

5. Claims 1-6, 9-18, and 21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Okubo et al. (US Patent No. 6,199,527).

Okubo discloses a valve-operating lever comprising: a valve arm (113) including a first aperture (114) defining a valve arm engagement portion; a connector member (115); a first stop (one end of 115) cooperating with the connector member to at least partially define a first engagement portion, the valve arm engagement portion engaging the first engagement portion; and a second stop (the other end of 115) positioned such that the valve arm is sandwiched between the first stop and the second stop; wherein

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the first aperture is substantially circular; wherein the first stop includes a first reduced-diameter portion that defines a first shoulder (See Fig. 12B); wherein the valve arm defines a valve arm thickness and wherein the first engagement portion defines an axial length that is at least as great as the valve arm thickness; wherein the valve arm is formed from a stamped metal; Okubo further discloses the said lever comprising a follower arm (117, 118) including a second aperture defining a follower arm engagement portion; wherein the follower arm includes a follower surface adapted to engage a cam surface; wherein the valve arm includes a valve actuating portion (28) adapted to actuate a valve in response to movement of the follower arm; wherein the first stop is integrally formed as part of the connector member; wherein the second stop is integrally formed as part of the connector member; wherein the first stop and the second stop overlay a portion of the valve arm (over 116); wherein a second portion of the connector member overlays a portion of a follower arm adjacent a second aperture of the follower arm, and the follower arm engagement portion engages the second engagement portion; wherein the follower arm defines a follower arm thickness, and the second engagement portion defines an axial length that is at least as great as the lever arm thickness (See Fig. 12B).

The Okubo reference further teaches " a caulking tool (not shown) having an annular and wedge-like edge is strongly urged on both ends of this pivot 115. Then parts on the both ends near the outer diameter of the pivot are plastically deformed outward in the radial direction " (See Col. 19, line 44 through line 48).

With regarding to section 103(a), it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the caulking tool as taught by Okubo to have additional end stops on the said connector member to engage with the said follower arm, since the use thereof would provide an improved valve actuating lever.

In addition, when a product by process claim is rejected over a prior art product such as that shown in Okubo, which appears to be identical, although produced by a different process, the burden is upon the applicants to come forward with evidence establishing an unobvious difference between the two. See *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. ***Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Immel (as applied to claim 1 above) in view of Zubeck (US Patent No. 6,550,435).***

Immel discloses the invention, however, fails to disclose at least one of the valve arm engagement portion and the first engagement portion having knurls.

The patent to Zubeck on the other hand, teaches that it is conventional in the art of a roller finger follower assembly, to utilize knurls on the engagement surfaces to press fit cams (48) into a lash pin (36).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized knurls on the engagement surfaces as taught by Zubeck in the Immel device, since the use thereof would provide an alternative valve actuating lever in application.

8. *Claims 7 ad 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo (as applied to claims 1 and 19/15/13/12/1 above) in view of Zubeck (US Patent No. 6,550,435).*

Okubo discloses the invention, however, fails to disclose at least one of the valve arm engagement portion, the first engagement portion, the follower arm engagement portion, and the second engagement portion having knurls.

The patent to Zubeck on the other hand, teaches that it is conventional in the art of a roller finger follower assembly, to utilize knurls on the engagement surfaces to press fit cams (48) into a lash pin (36).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized knurls on the engagement surfaces as taught by Zubeck in the Okubo device, since the use thereof would provide an alternative valve actuating lever in application.

9. ***Claims 22-28, and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gracyalny et al. (US Patent No. 6,349,688) in view of Okubo (US Patent No. 6,199,527), and further in view of Zubeck (US Patent No. 6,550,435).***

Gracyalny discloses a direct lever system for an engine, the system comprising: a cylinder bore (24), the cylinder bore having an outer end (32); a cam assembly (144) having at least one cam surface (164) and an axis inward of the outer end of the cylinder bore (See Fig. 3); two valves having opened and closed positions; two valve stems (48, 52), each valve stem attached to one of the two valves; a cylinder head (28) substantially enclosing the outer end, the valves being seated in the cylinder head; and two pivotably mounted valve-operating levers (168, 172), at least one of the valve-operating levers including, a connector member (212) having a follower arm end and a valve arm end, the connector member defining a pivot axis (188) about which the valve-operating lever pivots; a follower arm (204) fixedly attached to the connector member, the follower arm having a cam follower surface (180) in contact with the at least one cam surface; and a valve arm (208) fixedly attached to the connector member; wherein the valve arm is formed from a stamped metal.

Gracyalny discloses the invention as recited above, however, fails to disclose the engagements among the valve arm, the connector member, and the follower arm being through the circular apertures and stop ends between them.

The patent to Okubo on the other hand, teaches that it is conventional in the art of a sheet metal rocker arm, to utilize a pivot (115) through circular apertures of the side walls (103), with deformed ends to engage a rocker arm (113).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the circular engagement surfaces with end stops between the side walls and the pivot as taught by Okubo in the Gracylny device, since the use thereof would provide an improved lever overhead valve system.

The modified Gracyalny discloses the invention, however, fails to disclose at least one of the follower arm aperture, the follower arm end of the connector member, the valve arm aperture, the valve arm end of the connector member having knurls.

The patent to Zubeck on the other hand, teaches that it is conventional in the art of a roller finger follower assembly, to utilize knurls on the engagement surfaces to press fit cams (48) into a lash pin (36).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized knurls on the engagement surfaces as taught by Zubeck in the modified Gracyalny device, since the use thereof would provide an improved direct lever valve system.

In addition, when a product by process claim is rejected over a prior art product such as that shown in Gracyalny, which appears to be identical, although produced by a different process, the burden is upon the applicants to come forward with evidence establishing an unobvious difference between the two. See *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Reinbold et al. (US Patent 6,739,304).
- Maysuda et al. (US Patent 6,634,330).
- Dick (US Patent 5,280,776).
- Cholewczynski (US Patent 5,022,360).
- Lautenschlager et al. (US Patent 4,698,877).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ching Chang whose telephone number is (703)306-3478. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (703)308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

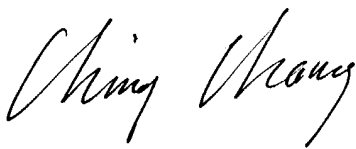
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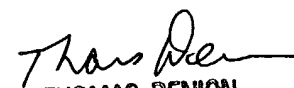
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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner

A handwritten signature in cursive script, appearing to read "Ching Chang".

Ching Chang

A handwritten signature in cursive script, appearing to read "Thomas Denion".

THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700